#### Exhibit A

## Clean Version of The Pending Claims in U.S. Patent Application Ser. No. 09/863,823

- 4. An isolated nucleic acid molecule comprising at least 24 contiguous bases of nucleotide sequence first disclosed in the NHP gene described in SEQ ID NO:6.
  - 5. (Twice Amended) An isolated nucleic acid molecule comprising a nucleotide sequence that:
    - (a) encodes the amino acid sequence shown in SEQ ID NO:7; and
    - (b) hybridizes to the nucleotide sequence of SEQ ID NO:6 or the complement thereof under highly stringent conditions of 0.5 M NaHPO<sub>4</sub>, 7% sodium dodecyl sulfate (SDS) and 1 mM EDTA at 65°C and washing in 0.1x SSC/0.1%SDS at 68°C.
- 6. An isolated nucleic acid molecule comprising a nucleotide sequence that encodes the amino acid sequence shown in SEQ ID NO:7.
- 7. A recombinant expression vector comprising the isolated nucleic acid molecule of claim 4.
  - 8. A host cell comprising the recombinant expression vector of claim 7.
- 9. (New) The isolated nucleic acid molecule of claim 4, comprising the nucleic acid sequence of SEQ ID NO:6.
- 10. (New) The recombinant expression vector of claim 7, wherein said nucleic acid molecule encodes the amino acid sequence shown in SEQ ID NO:7.
- 11. (New) The recombinant expression vector of claim 10, wherein said nucleic acid molecule comprises the nucleic acid sequence of SEQ ID NO:6.

### Exhibit B

# Marked Up Version of Amended Claims in U.S. Patent Application Ser. No. 09/691,343

- 4. An isolated nucleic acid molecule comprising at least 24 contiguous bases of nucleotide sequence first disclosed in the NHP gene described in SEQ ID NO:6.
  - 5. (Twice Amended) An isolated nucleic acid molecule comprising a nucleotide sequence that:
    - (a) encodes the amino acid sequence shown in SEQ ID NO:7; and
    - (b) hybridizes [under highly stringent conditions] to the nucleotide sequence of SEQ ID NO:6 or the complement thereof <u>under highly stringent conditions of 0.5 M NaHPO<sub>4</sub>, 7% sodium dodecyl sulfate (SDS) and 1 mM EDTA at 65°C and washing in 0.1x SSC/0.1%SDS at 68°C.</u>
- 6. An isolated nucleic acid molecule comprising a nucleotide sequence that encodes the amino acid sequence shown in SEQ ID NO:7.
- 7. A recombinant expression vector comprising the isolated nucleic acid molecule of claim 4.
  - 8. A host cell comprising the recombinant expression vector of claim 7.
- 9. (New) The isolated nucleic acid molecule of claim 4, comprising the nucleic acid sequence of SEQ ID NO:6.
- 10. (New) The recombinant expression vector of claim 7, wherein said nucleic acid molecule encodes the amino acid sequence shown in SEQ ID NO:7.
- 11. (New) The recombinant expression vector of claim 10, wherein said nucleic acid molecule comprises the nucleic acid sequence of SEQ ID NO:6.







PubMed

Nucleotide

Protein Genome Structure

**PMC** 

Taxonomy

OMIM

Bc

Search | PubMed

for Limits

Preview/Index

History

Clipboard

Clear

ලා

Details

**About Entrez** 

Display

Abstract

Show: 20

Sort  $\nabla$ 



₹ Text

**Text Version** 

Entrez PubMed Overview Help | FAQ Tutorial New/Noteworthy E-Utilities

**PubMed Services** Journals Database MeSH Browser Single Citation Matcher **Batch Citation Matcher** Clinical Queries LinkOut Cubby

Related Resources Order Documents **NLM Gateway TOXNET** Consumer Health Clinical Alerts ClinicalTrials.gov PubMed Central

Privacy Policy

☐ 1: Nat Cell Biol 2000 May;2(5):302-9

Related Articles, Links

cell biology

PDGF-C is a new protease-activated ligand for the PDGF alphareceptor.

Li X, Ponten A, Aase K, Karlsson L, Abramsson A, Uutela M, Backstrom G, Hellstrom M, Bostrom H, Li H, Soriano P, Betsholtz C, Heldin CH, Alitalo K, Ostman A, Eriksson U.

Ludwig Institute for Cancer Research, Stockholm, Sweden.

Platelet-derived growth factors (PDGFs) are important in many types of mesenchymal cell. Here we identify a new PDGF, PDGF-C, which binds to and activates the PDGF alpha-receptor. PDGF-C is activated by proteolysis and induces proliferation of fibroblasts when overexpressed in transgenic mice. In situ hybridization analysis in the murine embryonic kidney shows preferential expression of PDGF-C messenger RNA in the metanephric mesenchyme during epithelial conversion. Analysis of kidneys lacking the PDGF alpha-receptor shows selective loss of mesenchymal cells adjacent to sites of expression of PDGF-C mRNA; this is not found in kidneys from animals lacking PDGF-A or both PDGF-A and PDGF-B, indicating that PDGF-C may have a unique function.

PMID: 10806482 [PubMed - indexed for MEDLINE]

Display Show: 20 Abstract

Sort



Text

Write to the Help Desk NCBI | NLM | NIH Department of Health & Human Services Freedom of Information Act | Disclaimer

Mar 3 2003 10:01:4







SNC	BL		-up-m	ea		of Medicine NL	M	
PubMed	Nucleotide	Protein	Genome	Structure	PMC	Taxonomy	ОМІМ	В
Search PubMe	d 🔯	for _		none error (We die Arienerinae non one		Go Clear		
		Limits	Preview/Index	Histo	ory	Clipboard	De	tails
About Entrez		splay Abstr	ract S	how: 20 👺	Sort	<b>▼</b> Send to	Text	Ţ.
Text Version								
Entrez PubMed	<b>5</b> 1		m 2001 Jul 20;27	76(29):2740	6-14	Relat	ed Articles	s, Link

www.jbc.org

Entrez PubMed Overview Help | FAQ Tutorial New/Noteworthy E-Utilities

PubMed Services
Journals Database
MeSH Browser
Single Citation Matcher
Batch Citation Matcher
Clinical Queries
LinkOut
Cubby

Related Resources Order Documents NLM Gateway TOXNET Consumer Health Clinical Alerts ClinicalTrials.gov PubMed Central

Privacy Policy

Platelet-derived growth factor C (PDGF-C), a novel growth factor that binds to PDGF alpha and beta receptor.

Gilbertson DG, Duff ME, West JW, Kelly JD, Sheppard PO, Hofstrand PD, Gao Z, Shoemaker K, Bukowski TR, Moore M, Feldhaus AL, Humes JM, Palmer TE, Hart CE.

ZymoGenetics Inc., Seattle, Washington 98102, USA. gilbertd@zgi.com

We have characterized platelet-derived growth factor (PDGF) C, a novel growth factor belonging to the PDGF family. PDGF-C is a multidomain protein with the N-terminal region homologous to the extracellular CUB domain of neuropilin-1, and the C-terminal region consists of a growth factor domain (GFD) with homology to vascular endothelial growth factor (25%) and PDGF A-chain (23%). A serum-sensitive cleavage site between the two domains allows release of the GFD from the CUB domain. Competition binding and immunoprecipitation studies on cells bearing both PDGF alpha and beta receptors reveal a high affinity binding of recombinant GFD (PDGF-CC) to PDGF receptor-alpha homodimers and PDGF receptoralpha/beta heterodimers. PDGF-CC exhibits greater mitogenic potency than PDGF-AA and comparable or greater mitogenic activity than PDGF-AB and PDGF-BB on several mesenchymal cell types. Analysis of PDGF-CC in vivo in a diabetic mouse model of delayed wound healing showed that PDGF-CC significantly enhanced repair of a full-thickness skin excision. Together, these studies describe a third member of the PDGF family (PDGF-C) as a potent mitogen for cells of mesenchymal origin in in vitro and in vivo systems with a binding pattern similar to PDGF-AB.

PMID: 11297552 [PubMed - indexed for MEDLINE]

Display Abstract	Show: 20 Sort	Send to Text

Write to the Help Desk NCBI | NLM | NIH



Score = 486 bits (1237), Expect = e-135
Identities = 234/234 (100%), Positives = 234/234 (100%)
Frame = +3

Query: 1 MSLFGLLLTSALAGQRQGTQAESNLSSKFQFSSNKEQNGVQDPQHERIITVSTNGSIHS 60 MSLFGLLLLTSALAGQRQGTQAESNLSSKFQFSSNKEQNGVQDPQHERIITVSTNGSIHS

Sbjct: 492 MSLFGLLLTSALAGQRQGTQAESNLSSKFQFSSNKEQNGVQDPQHERIITVSTNGSIHS 671

Query: 61 PRFPHTYPRNTVLVWRLVAVEENVWIQLTFDERFGLEDPEDDICKYDFVEVEEPSDGTIL 120 PRFPHTYPRNTVLVWRLVAVEENVWIQLTFDERFGLEDPEDDICKYDFVEVEEPSDGTIL

Sbjct: 672 PRFPHTYPRNTVLVWRLVAVEENVWIQLTFDERFGLEDPEDDICKYDFVEVEEPSDGTIL 851

Query: 121 GRWCGSGTVPGKQISKGNQIRIRFVSDEYFPSEPGFCIHYNIVMPQFTEAVSPSVLPPSA 180 GRWCGSGTVPGKQISKGNQIRIRFVSDEYFPSEPGFCIHYNIVMPQFTEAVSPSVLPPSA

Sbjct: 852 GRWCGSGTVPGKQISKGNQIRIRFVSDEYFPSEPGFCIHYNIVMPQFTEAVSPSVLPPSA 1031

Query: 181 LPLDLLNNAITAFSTLEDLIRYLEPERWQLDLEDLYRPTWQLLGKAFVFGRKSR 234 LPLDLLNNAITAFSTLEDLIRYLEPERWQLDLEDLYRPTWQLLGKAFVFGRKSR Sbjct: 1032LPLDLLNNAITAFSTLEDLIRYLEPERWQLDLEDLYRPTWQLLGKAFVFGRKSR 1193

>AF260738 ACCESSION:AF260738 NID: gi 14009503 gb AF260738.1 AF260738

Homo sapiens platelet-derived growth factor C (PDGFC)

mRNA, complete cds

Length = 1804

Score = 486 bits (1237), Expect = e-135 Identities = 234/234 (100%), Positives = 234/234 (100%). Frame = +1

Query: 1 MSLFGLLLLTSALAGQRQGTQAESNLSSKFQFSSNKEQNGVQDPQHERIITVSTNGSIHS 60 MSLFGLLLLTSALAGQRQGTQAESNLSSKFQFSSNKEQNGVQDPQHERIITVSTNGSIHS

Sbjct: 163 MSLFGLLLLTSALAGQRQGTQAESNLSSKFQFSSNKEQNGVQDPQHERIITVSTNGSIHS 342

Query: 61 PRFPHTYPRNTVLVWRLVAVEENVWIQLTFDERFGLEDPEDDICKYDFVEVEEPSDGTIL 120 PRFPHTYPRNTVLVWRLVAVEENVWIQLTFDERFGLEDPEDDICKYDFVEVEEPSDGTIL

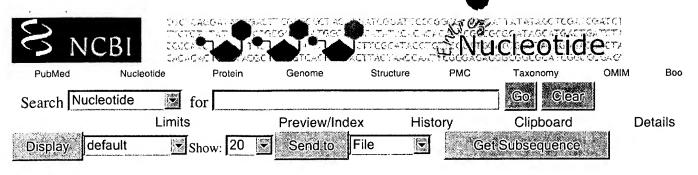
Sbjct: 343 PRFPHTYPRNTVLVWRLVAVEENVWIOLTFDERFGLEDPEDDICKYDFVEVEEPSDGTIL 522

Query: 121 GRWCGSGTVPGKQISKGNQIRIRFVSDEYFPSEPGFCIHYNIVMPQFTEAVSPSVLPPSA 180 GRWCGSGTVPGKQISKGNQIRIRFVSDEYFPSEPGFCIHYNIVMPQFTEAVSPSVLPPSA

Sbjct: 523 GRWCGSGTVPGKQISKGNQIRIRFVSDEYFPSEPGFCIHYNIVMPQFTEAVSPSVLPPSA 702

Query: 181 LPLDLLNNAITAFSTLEDLIRYLEPERWQLDLEDLYRPTWQLLGKAFVFGRKSR 234 LPLDLLNNAITAFSTLEDLIRYLEPERWQLDLEDLYRPTWQLLGKAFVFGRKSR

Sbjct: 703 LPLDLLNNAITAFSTLEDLIRYLEPERWQLDLEDLYRPTWQLLGKAFVFGRKSR 864



## **1:** NM\_016205. Homo sapiens plat...[gi:9994186]

Links

PRI 17-AUG-2001 LOCUS **PDGFC** 3007 bp mRNA linear Homo sapiens platelet derived growth factor C (PDGFC), mRNA. DEFINITION NM\_016205 ACCESSION VERSION NM\_016205.1 GI:9994186 KEYWORDS Homo sapiens (human) SOURCE ORGANISM Homo sapiens Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo. REFERENCE (bases 1 to 3007) Li,X., Ponten,A., Aase,K., Karlsson,L., Abramsson,A., Uutela,M., **AUTHORS** Backstrom, G., Hellstrom, M., Bostrom, H., Li, H., Soriano, P., Betsholtz, C., Heldin, C.H., Alitalo, K., Ostman, A. and Eriksson, U. TITLE PDGF-C is a new protease-activated ligand for the PDGF alpha-receptor Nat. Cell Biol. 2 (5), 302-309 (2000) JOURNAL MEDLINE 20268201

10806482 PUBMED

REFERENCE (bases 1 to 3007)

Hamada, T., Ui-Tei, K. and Miyata, Y. **AUTHORS** 

A novel gene derived from developing spinal cords, SCDGF, is a TITLE unique member of the PDGF/VEGF family

**JOURNAL** FEBS Lett. 475 (2), 97-102 (2000)

MEDLINE 20317014 10858496 PUBMED

REFERENCE (bases 1 to 3007)

Tsai, Y.J., Lee, R.K., Lin, S.P. and Chen, Y.H. **AUTHORS** 

Identification of a novel platelet-derived growth factor-like gene, TITLE

fallotein, in the human reproductive tract

Biochim. Biophys. Acta 1492 (1), 196-202 (2000) JOURNAL

20461776 MEDLINE 11004490 PUBMED

REFERENCE (bases 1 to 3007) Zwerner, J.P. and May, W.A. AUTHORS

PDGF-C is an EWS/FLI induced transforming growth factor in Ewing TITLE

family tumors

JOURNAL Oncogene 20 (5), 626-633 (2001)

21214457 MEDLINE 11313995 **PUBMED** 

REFERENCE (bases 1 to 3007)

Uutela, M., Lauren, J., Bergsten, E., Li, X., Horelli-Kuitunen, N., **AUTHORS** 

Eriksson, U. and Alitalo, K.

TITLE Chromosomal location, exon structure, and vascular expression

patterns of the human PDGFC and PDGFC genes

Circulation 103 (18), 2242-2247 (2001) JOURNAL

MEDLINE 21266739 **PUBMED** 11342471



REFERENCE 6 (bases 1 to 3007)

AUTHORS Gilbertson, D.G., Duff, M.E., West, J.W., Kelly, J.D., Sheppard, P.O.,

Hofstrand, P.D., Gao, Z., Shoemaker, K., Bukowski, T.R., Moore, M.,

Feldhaus, A.L., Humes, J.M., Palmer, T.E. and Hart, C.E.

TITLE Platelet-derived growth factor C (PDGF-C), a novel growth factor

that binds to PDGF alpha and beta receptor

JOURNAL J. Biol. Chem. 276 (29), 27406-27414 (2001)

MEDLINE <u>21347863</u> PUBMED 11297552

COMMENT REVIEWED REFSEQ: This record has been curated by NCBI staff. The

reference sequence was derived from AF091434.1.

Summary: The protein encoded by this gene is a member of the platelet-derived growth factor family. The four members of this family are mitogenic factors for cells of mesenchymal origin and are characterized by a core motif of eight cysteines. This gene product appears to form only homodimers. It differs from the platelet-derived growth factor alpha and beta polypeptides in

having an unusual N-terminal domain, the CUB domain.

COMPLETENESS: full length.

FEATURES Location/Qualifiers

source 1..3007

/organism="Homo sapiens"
/db\_xref="taxon:9606"

/chromosome="4" /map="4q32"

gene 1..3007

/gene="PDGFC"

/note="synonym: SCDGF"
/db\_xref="LocusID:56034"

variation 113

/gene="PDGFC" /allele="T" /allele="C"

/db\_xref="dbSNP:3733486"

<u>CDS</u> 492..1529

/gene="PDGFC"

/note="spinal cord-derived growth factor; secretory growth

factor-like protein; fallotein"

/codon\_start=1

/product="platelet-derived growth factor C precursor"

/protein\_id="NP\_057289.1" /db\_xref="GI:9994187" /db\_xref="LocusID:56034"

/translation="MSLFGLLLLTSALAGQRQGTQAESNLSSKFQFSSNKEQNGVQDPQHERIITVSTNGSIHSPRFPHTYPRNTVLVWRLVAVEENVWIQLTFDERFGLEDPEDDICKYDFVEVEEPSDGTILGRWCGSGTVPGKQISKGNQIRIRFVSDEYFPSEPGFCIHYNIVMPQFTEAVSPSVLPPSALPLDLLNNAITAFSTLEDLIRYLEPERWQLDLEDLYRPTWQLLGKAFVFGRKSRVVDLNLLTEEVRLYSCTPRNFSVSIREELKRTDTIFWPGCLLVKRCGGNCACCLHNCNECQCVPSKVTKKYHEVLQLRPKTGVRGLHKSLTDVALEHHEE

CDCVCRGSTGG"

pro\_peptide 492..1526

/gene="PDGFC"

/note="spinal cord-derived growth factor; secretory growth

factor-like protein; fallotein"

sig\_peptide 492..533

/gene="PDGFC"

mat\_peptide 534..1526

/gene="PDGFC"

/product="platelet-derived growth factor C"

misc\_feature 651..980

```
/gene="PDGFC"
                /note="CUB; Region: Domain first found in C1r, C1s, uEGF,
                and bone morphogenetic protein."
                /db_xref="CDD:smart00042"
misc_feature
                651..971
                /gene="PDGFC"
                /note="CUB; Region: CUB domain"
                /db_xref="CDD:pfam00431"
misc_feature
                1239..1502
                /gene="PDGFC"
                /note="PDGF; Region: Platelet-derived and vascular
                endothelial growth factors (PDGF, VEGF) family"
                /db_xref="CDD:smart00141"
                1239..1502
misc_feature
                /gene="PDGFC"
                /note="PDGF; Region: Platelet-derived growth factor
                /db_xref="CDD:pfam00341"
misc_feature
                1239..1241
                /gene="PDGFC"
                /note="conserved cysteine; unclassified site"
                1311..1313
misc_feature
                /gene="PDGFC"
                /note="conserved cysteine; unclassified site"
misc_feature
                1329..1331
                /gene="PDGFC"
                /note="conserved cysteine; unclassified site"
                1347..1349
misc_feature
                /gene="PDGFC"
                /note="conserved cysteine; unclassified site"
                1350..1352
misc_feature
                /gene="PDGFC"
                /note="conserved cysteine; unclassified site"
misc_feature
                1371..1373
                /gene="PDGFC"
                /note="conserved cysteine; unclassified site"
                1494..1496
misc_feature
                /gene="PDGFC"
                /note="conserved cysteine; unclassified site"
misc_feature
                1500..1502
                /gene="PDGFC"
                /note="conserved cysteine; unclassified site"
                complement (1523)
variation
                /allele="T"
                /allele="C"
                /db_xref="dbSNP:3815861"
variation
                complement (1909)
                /allele="T"
                /allele="G"
                /db xref="dbSNP:1425487"
variation
                complement (2086)
                /allele="T"
                /allele="C"
                /db_xref="dbSNP:1425486"
                complement (2464)
variation
                /allele="T"
                /allele="A"
                /db_xref="dbSNP:3180908"
variation
                2660
                /gene="PDGFC"
```

```
/allele="T"
/allele="C"
```

/db\_xref="dbSNP: 1047569"

polyA\_signal 2974..2979

The second state of the second state of the second second

/gene="PDGFC"

polyA\_site

3007 /gene="PDGFC"

BASE COUNT 858 a 613 c 635 g 901 t

ORIGIN

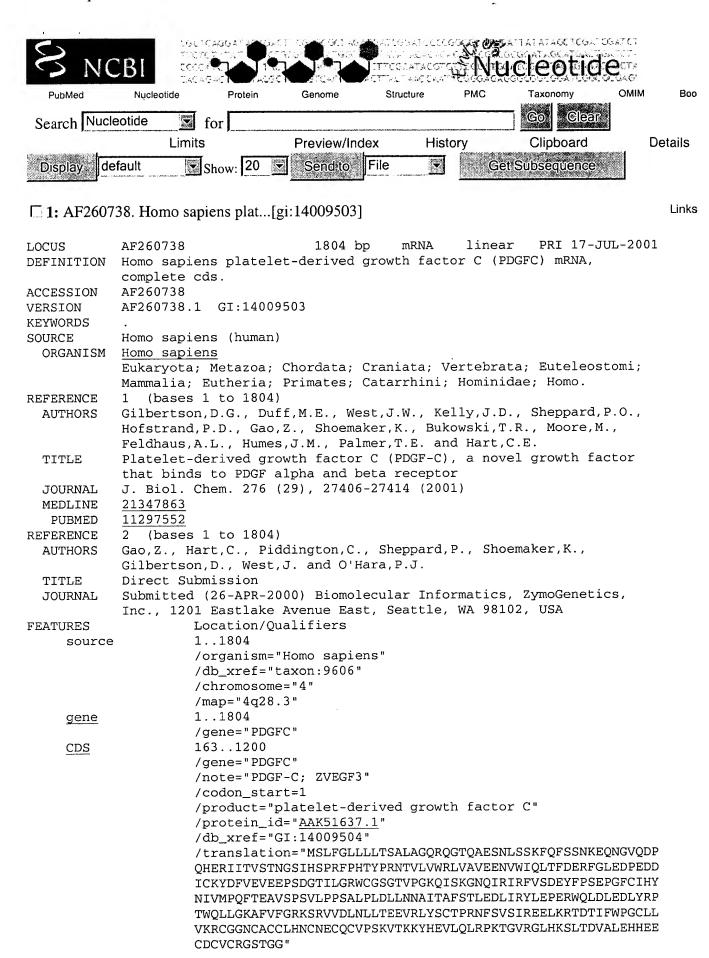
```
1 gcccggagag ccgcatctat tggcagcttt gttattgatc agaaactgct cgccgccgac
  61 ttggcttcca gtctggctgc gggcaaccct tgagttttcg cctctgtcct gtccccgaa
 121 ctgacaggtg ctcccagcaa cttgctgggg acttctcgcc gctcccccgc gtccccaccc
 181 cctcattcct ccctcgcctt cacccccacc cccaccactt cgccacagct caggatttgt
 241 ttaaaccttg ggaaactggt tcaggtccag gttttgcttt gatccttttc aaaaactgga
 301 gacacagaag agggctctag gaaaaagttt tggatgggat tatgtggaaa ctaccctgcg
 361 attetetget gecagageag geteggeget tecaceceag tgeageette eeetggeggt
 421 ggtgaaagag actcgggagt cgctgcttcc aaagtgcccg ccgtgagtga gctctcaccc
 481 cagtcagcca aatgagcctc ttcgggcttc tcctgctgac atctgccctg gccggccaga
 541 gacaggggac tcaggcggaa tccaacctga gtagtaaatt ccagttttcc agcaacaagg
 601 aacagaacgg agtacaagat cctcagcatg agagaattat tactgtgtct actaatggaa
 661 gtattcacag cccaaggttt cctcatactt atccaagaaa tacggtcttg gtatggagat
 721 tagtagcagt agaggaaaat gtatggatac aacttacgtt tgatgaaaga tttgggcttg
 781 aagacccaga agatgacata tgcaagtatg attttgtaga agttgaggaa cccagtgatg
 841 gaactatatt agggcgctgg tgtggttctg gtactgtacc aggaaaacag atttctaaag
 901 gaaatcaaat taggataaga tttgtatctg atgaatattt tccttctgaa ccagggttct
 961 gcatccacta caacattgtc atgccacaat tcacagaagc tgtgagtcct tcagtgctac
1021 ccccttcagc tttgccactg gacctgctta ataatgctat aactgccttt agtaccttgg
1081 aagaccttat tcgatatctt gaaccagaga gatggcagtt ggacttagaa gatctatata
1141 ggccaacttg gcaacttctt ggcaaggctt ttgtttttgg aagaaaatcc agagtggtgg
1201 atctgaacct tctaacagag gaggtaagat tatacagctg cacacctcgt aacttctcag
1261 tgtccataag ggaagaacta aagagaaccg ataccatttt ctggccaggt tgtctcctgg
1321 ttaaacgctg tggtgggaac tgtgcctgtt gtctccacaa ttgcaatgaa tgtcaatgtg
1381 tcccaagcaa agttactaaa aaataccacg aggtccttca gttgagacca aagaccggtg
1441 tcaggggatt gcacaaatca ctcaccgacg tggccctgga gcaccatgag gagtgtgact
1501 gtgtgtgcag agggagcaca ggaggatagc cgcatcacca ccagcagctc ttgcccagag
1561 ctgtgcagtg cagtggctga ttctattaga gaacgtatgc gttatctcca tccttaatct
1621 cagttgtttg cttcaaggac ctttcatctt caggatttac agtgcattct gaaagaggag
1681 acatcaaaca gaattaggag ttgtgcaaca gctcttttga gaggaggcct aaaggacagg
1741 agaaaaggtc ttcaatcgtg gaaagaaaat taaatgttgt attaaataga tcaccagcta
1801 gtttcagagt taccatgtac gtattccact agctgggttc tgtatttcag ttctttcgat
1861 acggcttagg gtaatgtcag tacaggaaaa aaactgtgca agtgagcacc tgattccgtt
1921 gccttgctta actctaaagc tccatgtcct gggcctaaaa tcgtataaaa tctggatttt
1981 ttttttttt tttgctcata ttcacatatg taaaccagaa cattctatgt actacaaacc
2041 tggtttttaa aaaggaacta tgttgctatg aattaaactt gtgtcgtgct gataggacag
2101 actggatttt tcatatttct tattaaaatt tctgccattt agaagaagag aactacattc
2161 atggtttgga agagataaac ctgaaaagaa gagtggcctt atcttcactt tatcgataag
2221 teagtttatt tgtttcattg tgtacatttt tatattetee ttttgacatt ataactgttg
2281 gcttttctaa tcttgttaaa tatatctatt tttaccaaag gtatttaata ttcttttta
2341 tgacaactta gatcaactat ttttagcttg gtaaattttt ctaaacacaa ttgttatagc
2401 cagaggaaca aagatgatat aaaatattgt tgctctgaca aaaatacatg tatttcattc
2461 tcgtatggtg ctagagttag attaatctgc attttaaaaaa actgaattgg aatagaattg
2521 gtaagttgca aagacttttt gaaaataatt aaattatcat atcttccatt cctgttattg
2581 gagatgaaaa taaaaagcaa cttatgaaag tagacattca gatccagcca ttactaacct
2641 attecttttt tggggaaate tgageetage teagaaaaae ataaageace ttgaaaaaga
2701 cttggcagct tcctgataaa gcgtgctgtg ctgtgcagta ggaacacatc ctatttattg
2761 tgatgttgtg gttttattat cttaaactct gttccataca cttgtataaa tacatggata
2821 tttttatgta cagaagtatg tctcttaacc agttcactta ttgtactctg gcaatttaaa
2881 agaaaatcag taaaatattt tgcttgtaaa atgcttaata tcgtgcctag gttatgtggt
2941 gactatttga atcaaaaatg tattgaatca tcaaataaaa gaatgtggct attttgggga
3001 gaaaatt
```

//

Revised: July 5, 2002.

<u>Disclaimer | Write to the Help Desk</u> <u>NCBI | NLM | NIH</u>

Mar 3 2003 10:13:39



THE PARTY OF THE P



```
BASE COUNT
               531 à
                        375 c
                                 416.g
                                          482 t
ORIGIN
       1 ggcacgagga ttatgtggaa actaccctgc gattctctgc tgccagagca ggctcggcgc
      61 ttccacccca gtgcagcctt cccctggcgg tggtgaaaga gactcgggag tcgctgcttc
     121 caaagtgccc gccgtgagtg agctctcacc ccagtcagcc aaatgagcct cttcgggctt
     181 ctcctgctga catctgccct ggccggccag agacagggga ctcaggcgga atccaacctg
     241 agtagtaaat tecagtttte cagcaacaag gaacagaacg gagtacaaga tecteageat
     301 gagagaatta ttactgtgtc tactaatgga agtattcaca gcccaaggtt tcctcatact
     361 tatccaagaa atacggtctt ggtatggaga ttagtagcag tagaggaaaa tgtatggata
     421 caacttacgt ttgatgaaag atttgggctt gaagacccag aagatgacat atgcaagtat
     481 gattttgtag aagttgagga acccagtgat ggaactatat tagggcgctg gtgtggttct
     541 ggtactgtac caggaaaaca gatttctaaa ggaaatcaaa ttaggataag atttgtatct
     601 gatgaatatt ttccttctga accagggttc tgcatccact acaacattgt catgccacaa
     661 ttcacagaag ctgtgagtcc ttcagtgcta cccccttcag ctttgccact ggacctgctt
     721 aataatgcta taactgcctt tagtaccttg gaagacctta ttcgatatct tgaaccagag
     781 agatggcagt tggacttaga agatctatat aggccaactt ggcaacttct tggcaaggct
     841 tttgtttttg gaagaaaatc cagagtggtg gatctgaacc ttctaacaga ggaggtaaga
     901 ttatacagct gcacacctcg taacttctca gtgtccataa gggaagaact aaagagaacc
     961 gataccattt tctggccagg ttgtctcctg gttaaacgct gtggtgggaa ctgtgcctgt
     1021 tgtctccaca attgcaatga atgtcaatgt gtcccaagca aagttactaa aaaataccac
     1081 gaggtccttc agttgagacc aaagaccggt gtcaggggat tgcacaaatc actcaccgac
     1141 qtqqccctqq agcaccatga ggagtgtgac tgtgtgtgca gagggagcac aggaggatag
     1201 ccgcatcacc accagcaget ettgeccaga getgtgcagt geagtggetg attetattag
     1261 agaacgtatg cgttatctcc atccttaatc tcagttgttt gcttcaagga cctttcatct
     1321 tcaggattta cagtgcattc tgaaagagga gacatcaaac agaattagga gttgtgcaac
     1381 agctcttttg agaggaggcc taaaggacag gagaaaaggt cttcaatcgt ggaaagaaaa
     1441 ttaaatgttg tattaaatag atcaccagct agtttcagag ttaccatgta cgtattccac
    1501 tagctgggtt ctgtatttca gttctttcga tacggcttag ggtaatgtca gtacaggaaa
    1561 aaaactgtgc aagtgagcac ctgattccgt tgccttgctt aactctaaag ctccatgtcc
     1621 tgggcctaaa atcgtataaa atctggattt ttttttttt tttttgctca tattcacata
     1681 tgtaaaccag aacattctat gtactacaaa cctggttttt aaaaaggaac tatgttgcta
     1801 aaaa
11
```

Revised: July 5, 2002.

<u>Disclaimer | Write to the Help Desk</u> <u>NCBI | NLM | NIH</u>

Mar 3 2003 10:13:39







Clear

Nucleotide PubMed

**▼** for

Genome

**PMC** 

Taxonomy

OMIM

Вс

Search PubMed

Limits

Protein

Preview/Index

History

Structure

Clipboard

ලුල

Details

**About Entrez** 

Abstract

Sort Show: 20



 $\triangle$ Text

**Text Version** 

Entrez PubMed Overview Help | FAQ Tutorial New/Noteworthy E-Utilities

**PubMed Services** Journals Database MeSH Browser Single Citation Matcher **Batch Citation Matcher** Clinical Queries LinkOut Cubby

Related Resources Order Documents **NLM Gateway** TOXNET Consumer Health Clinical Alerts ClinicalTrials.gov PubMed Central

Privacy Policy

☐ 1: Biochim Biophys Acta 2000 Jun 21;1492(1):196-202 ELSEVIER SCIENCE

Related Articles, Link

**FULL-TEXT ARTICLE** 

Identification of a novel platelet-derived growth factor-like gene, fallotein, in the human reproductive tract.

Tsai YJ, Lee RK, Lin SP, Chen YH.

Division of Reproduction and Endocrinolgy, Department of Medical Research, Mackay Memorial Hospital, Tamshui, Taiwan. yjtsai@ms1.mmh.org.tw

We isolated the cDNA of a novel platelet-derived growth factor-like gene from human endometrium. The gene was named fallotein; it was 3007 bases in length, and encoded a protein of 345 amino acids. Antiserum against the fallotein protein can recognize a specific protein in the fallopian tube, with a molecular size in accordance with the anticipated size of fallotein. Fallotein mRNA is expressed in two molecular sizes, 3.8 and 2.9 kb, with the former being more abundant. High expression of the gene was found in the prostate, testis, and uterus. A weaker expression signal was found in the spleen, thymus, and small intestine, but expression of fallotein in the colon and peripheral blood leukocytes was negligible.

PMID: 11004490 [PubMed - indexed for MEDLINE]

Display Send to Show: 20 Sort Text Abstract

> Write to the Help Desk NCBI | NLM | NIH Department of Health & Human Services Freedom of Information Act | Disclaimer

> > Mar 3 2003 10:01:4

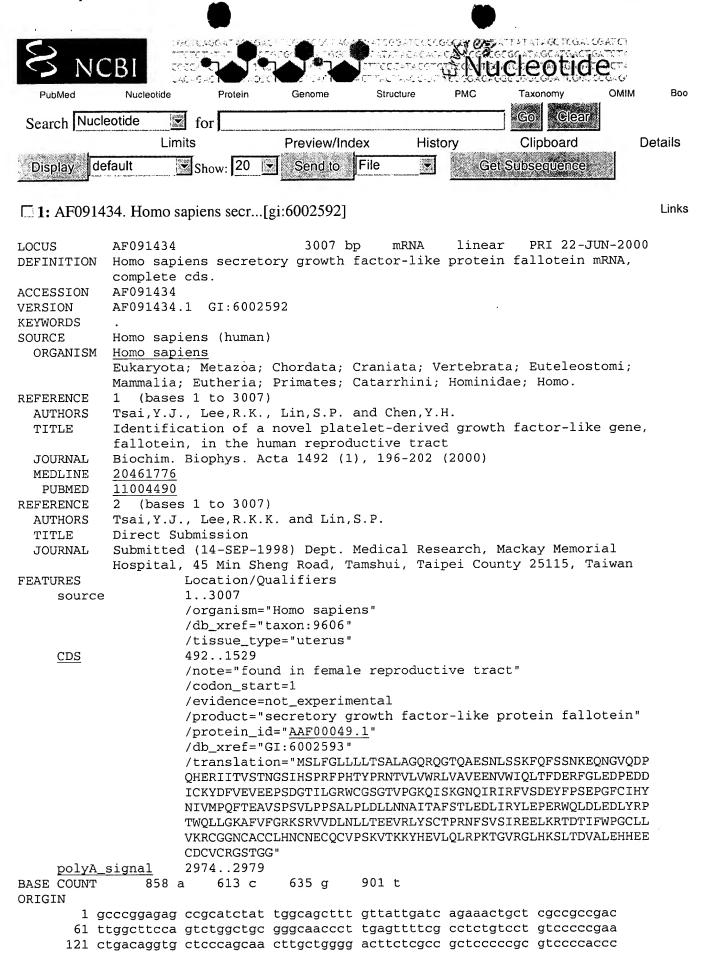
>AF091434 ACCESSION:AF091434 NID: gi 6002592 gb AF091434.1 AF091434

Homo sapiens secretory growth factor-like protein
fallotein mRNA, complete cds

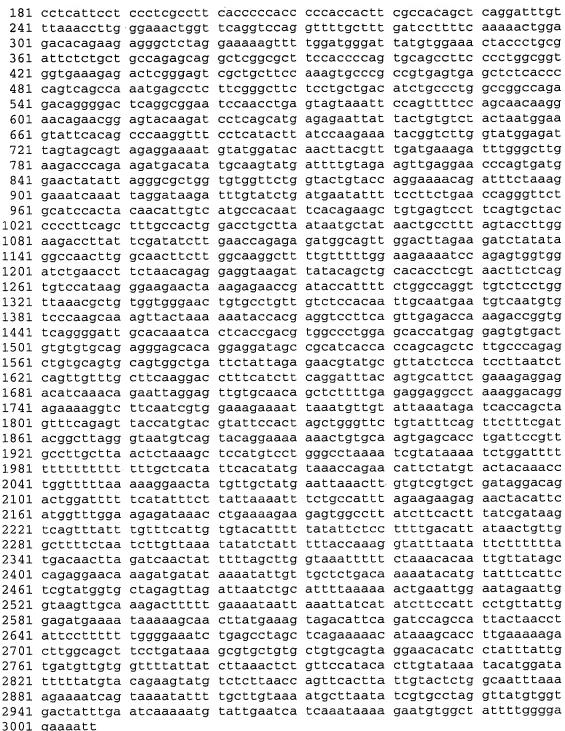
Length = 3007

Score = 486 bits (1237), Expect = e-135 Identities = 234/234 (100%), Positives = 234/234 (100%) Frame = +3

- Query: 1 MSLFGLLLLTSALAGQRQGTQAESNLSSKFQFSSNKEQNGVQDPQHERIITVSTNGSIHS 60 MSLFGLLLLTSALAGQRQGTQAESNLSSKFQFSSNKEQNGVQDPQHERIITVSTNGSIHS 671
- Query: 61 PRFPHTYPRNTVLVWRLVAVEENVWIQLTFDERFGLEDPEDDICKYDFVEVEEPSDGTIL 120 PRFPHTYPRNTVLVWRLVAVEENVWIQLTFDERFGLEDPEDDICKYDFVEVEEPSDGTIL Sbjct: 672 PRFPHTYPRNTVLVWRLVAVEENVWIQLTFDERFGLEDPEDDICKYDFVEVEEPSDGTIL 851
- Query: 121 GRWCGSGTVPGKQISKGNQIRIRFVSDEYFPSEPGFCIHYNIVMPQFTEAVSPSVLPPSA 180 GRWCGSGTVPGKQISKGNQIRIRFVSDEYFPSEPGFCIHYNIVMPQFTEAVSPSVLPPSA Sbjct: 852 GRWCGSGTVPGKQISKGNQIRIRFVSDEYFPSEPGFCIHYNIVMPQFTEAVSPSVLPPSA 1031
- Query: 181 LPLDLLNNAITAFSTLEDLIRYLEPERWQLDLEDLYRPTWQLLGKAFVFGRKSR 234 LPLDLLNNAITAFSTLEDLIRYLEPERWQLDLEDLYRPTWQLLGKAFVFGRKSR Sbjct: 1032LPLDLLNNAITAFSTLEDLIRYLEPERWQLDLEDLYRPTWQLLGKAFVFGRKSR 1193







Revised: July 5, 2002.

11

Disclaimer | Write to the Help Desk NCBI | NLM | NIH







PubMed

Nucleotide

Protein Genome

Structure

PMC

Taxonomy

OMIM

Bc

Search PubMed 💆

for

Limits

Preview/Index

History

Clipboard

Details

About Entrez

Djisplay.

Abstract

Show: 20





Clear



**Text Version** 

Entrez PubMed Overview Help | FAQ Tutorial New/Noteworthy E-Utilities

PubMed Services
Journals Database
MeSH Browser
Single Citation Matcher
Batch Citation Matcher
Clinical Queries
LinkOut
Cubby

Related Resources Order Documents NLM Gateway TOXNET Consumer Health Clinical Alerts ClinicalTrials.gov PubMed Central

Privacy Policy

☐ 1: FEBS Lett 2000 Jun 16;475(2):97-102

Related Articles, Links

ELSEVIER SCIENCE FULL-TEXT ARTICLE

A novel gene derived from developing spinal cords, SCDGF, is a unique member of the PDGF/VEGF family.

Hamada T, Ui-Tei K, Miyata Y.

Department of Pharmacology, Nippon Medical School, Tokyo, Japan.

We isolated a novel gene designated spinal cord-derived growth factor (SCDGF). Its expression was increased in chick spinal cords with embryonic development and decreased after hatching. The amino acid sequences of chick and human SCDGFs revealed a putative signal sequence followed by a CUB domain and a region homologous to the members of the platelet-derived growth factor/vascular endothelial growth factor family. Furthermore, human SCDGF secreted from the cells showed a mitogenic activity for 10T1/2 cells in vitro. These results led us to speculate that SCDGF plays an important role in the development of the spinal cord.

PMID: 10858496 [PubMed - indexed for MEDLINE]

Display Abstract

Show: 20

20 💆

Sort 💌

Send

Text

Write to the Help Desk
NCB! | NLM | NIH
Department of Health & Human Services
Freedom of Information Act | Disclaimer

Mar 3 2003 10:01:4

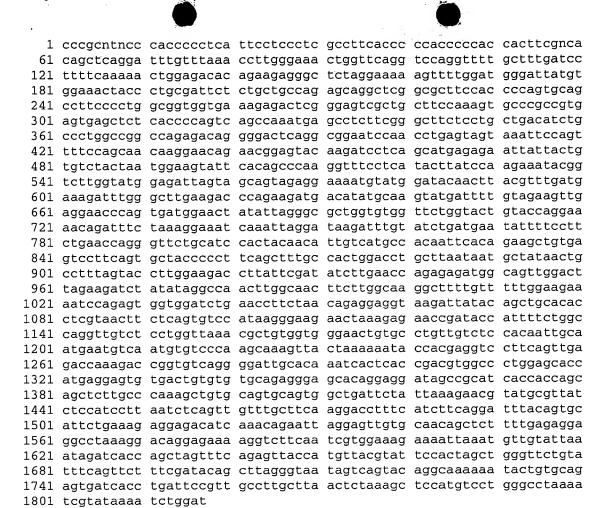
>AB033831 ACCESSION:AB033831 NID: gi 9392293 dbj AB033831.1 Homo sapiens hSCDGF mRNA for spinal cord-derived growth factor, complete cds
Length = 1817

Score = 486 bits (1237), Expect = e-135 Identities = 234/234 (100%), Positives = 234/234 (100%) Frame = +3

Secretary and the second of th

- Query: 1 MSLFGLLLTSALAGQRQGTQAESNLSSKFQFSSNKEQNGVQDPQHERIITVSTNGSIHS 60 MSLFGLLLTSALAGQRQGTQAESNLSSKFQFSSNKEQNGVQDPQHERIITVSTNGSIHS 506
- Query: 61 PRFPHTYPRNTVLVWRLVAVEENVWIQLTFDERFGLEDPEDDICKYDFVEVEEPSDGTIL 120 PRFPHTYPRNTVLVWRLVAVEENVWIQLTFDERFGLEDPEDDICKYDFVEVEEPSDGTIL Sbjct: 507 PRFPHTYPRNTVLVWRLVAVEENVWIQLTFDERFGLEDPEDDICKYDFVEVEEPSDGTIL 686
- Sbjct: 507 PRFPHTYPRNTVLVWRLVAVEENVWIQLTFDERFGLEDPEDDICKYDFVEVEEPSDGTIL 688
- Query: 121 GRWCGSGTVPGKQISKGNQIRIRFVSDEYFPSEPGFCIHYNIVMPQFTEAVSPSVLPPSA 180 GRWCGSGTVPGKQISKGNQIRIRFVSDEYFPSEPGFCIHYNIVMPQFTEAVSPSVLPPSA Sbjct: 687 GRWCGSGTVPGKQISKGNQIRIRFVSDEYFPSEPGFCIHYNIVMPQFTEAVSPSVLPPSA 866
- Query: 181 LPLDLLNNAITAFSTLEDLIRYLEPERWQLDLEDLYRPTWQLLGKAFVFGRKSR 234 LPLDLLNNAITAFSTLEDLIRYLEPERWQLDLEDLYRPTWQLLGKAFVFGRKSR Sbjct: 867 LPLDLLNNAITAFSTLEDLIRYLEPERWQLDLEDLYRPTWQLLGKAFVFGRKSR 1028





Revised: July 5, 2002.

//

<u>Disclaimer</u> | <u>Write to the Help Desk</u> <u>NCBI</u> | <u>NLM</u> | <u>NIH</u>

Mar 3 2003 10:13:39

Sequences producing significant alignments: (bit		E Value						
AC092608.2.1.196952 AC093325.3.1.130754		e-118 2e-59						
>AC092608.2.1.196952 Length = 196952								
<pre>Score = 430 bits (217), Expect = e-118 Identities = 217/217 (100%) Strand = Plus / Minus</pre>								
Query: 702 aggagataattatgaaaaggaaaaaaatctgaagaccaacttttacaaatatttggca	$\Pi$							
Sbjct: 74905 aggagataattatgaaaaggaaaaaaatctgaagaccaacttttacaaatatttggca	.ga	74846						
Query: 762 gggaaacttctttaatattattatagttaagctattcaaaaagtatcctttggtacat								
Sbjct: 74845 gggaaacttetttaatattattattatagttaagetatteaaaaagtateetttggtacat	ta	74786						
Query: 822 tctttcttctttttcttttttcttttttttttttt								
Sbjct: 74785 tetttettettettettettetetttatttgcctteccccccaaaagtactat	.ac	74726						
Query: 882 aatgtttcaagaatgtatgacatatgacttaacttaa 918								
Sbjct: 74725 aatgtttcaagaatgtatgacatatgacttaacttaa 74689								
<pre>Score = 414 bits (209), Expect = e-113 Identities = 209/209 (100%) Strand = Plus / Minus</pre>								
Query: 496 caattcacagaagctgtgagtccttcagtgctacccccttcagctttgccactggacc	tg 	555						
Sbjct: 77153 caattcacagaagctgtgagtccttcagtgctacccccttcagctttgccactggacc	tģ	77094						
Query: 556 cttaataatgctataactgcctttagtaccttggaagaccttattcgatatcttgaac		615						
Sbjct: 77093 cttaataatgctataactgcctttagtaccttggaagaccttattcgatatcttgaac		77034						
Query: 616 gagagatggcagttggacttagaagatctatataggccaacttggcaacttcttggca	ag 	675						
Sbjct: 77033 gagagatggcagttggacttagaagatctatataggccaacttggcaacttcttggca	ag	76974						

Query: 676 gcttttgtttttggaagaaatccagagg 704

Shiph 76073 makhhathathathan 20073 makhathathathan 20073

Sbjct: 76973 gcttttgtttttggaagaaaatccagagg 76945

Score = 396 bits (200), Expect = e-108

Identities = 200/200 (100%)

Strand = Plus / Minus

Query: 118 ggagtacaagatcctcagcatgagagaattattactgtgtctactaatggaagtattcac 177

Sbjct: 154677 ggagtacaagatcctcagcatgagagaattattactgtgtctactaatggaagtattcac 154618

Query: 178 agcccaaggtttcctcatacttatccaagaaatacggtcttggtatggagattagtagca 237

Query: 238 gtagaggaaaatgtatggatacaacttacgtttgatgaaagatttgggcttgaagaccca 297

Sbjct: 154557 gtagaggaaaatgtatggatacaacttacgtttgatgaaagatttgggcttgaagaccca 154498

Query: 298 gaagatgacatatgcaagta 317

Sbjct: 154497 gaagatgacatatgcaagta 154478

Score = 361 bits (182), Expect = 5e-97

Identities = 185/186 (99%)

Strand = Plus / Minus

Query: 310 tgcaagtatgatttttgtagaagttgaggaacccagtgatggaactatattagggcgctgg 369

Sbjct: 115282 tgcaggtatgattttgtagaagttgaggaacccagtgatggaactatattagggcgctgg 115223

Query: 370 tgtggttctggtactgtaccaggaaaacagatttctaaaggaaatcaaattaggataaga 429

Sbjct: 115222 tgtggttctggtactgtaccaggaaaacagatttctaaaggaaatcaaattaggataaga 115163

Query: 430 tttgtatctgatgaatattttccttctgaaccagggttctgcatccactacaacattgtc 489

Sbjct: 115162 tttgtatctgatgaatattttccttctgaaccagggttctgcatccactacaacattgtc 115103

Query: 490 atgcca 495

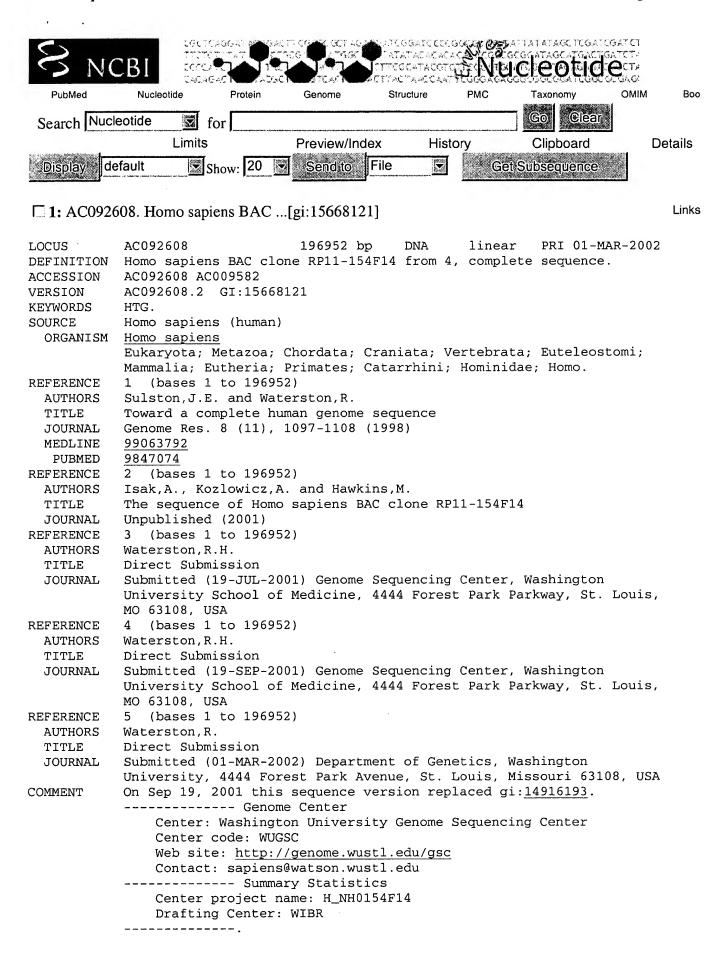
Sbjct: 115102 atgcca 115097

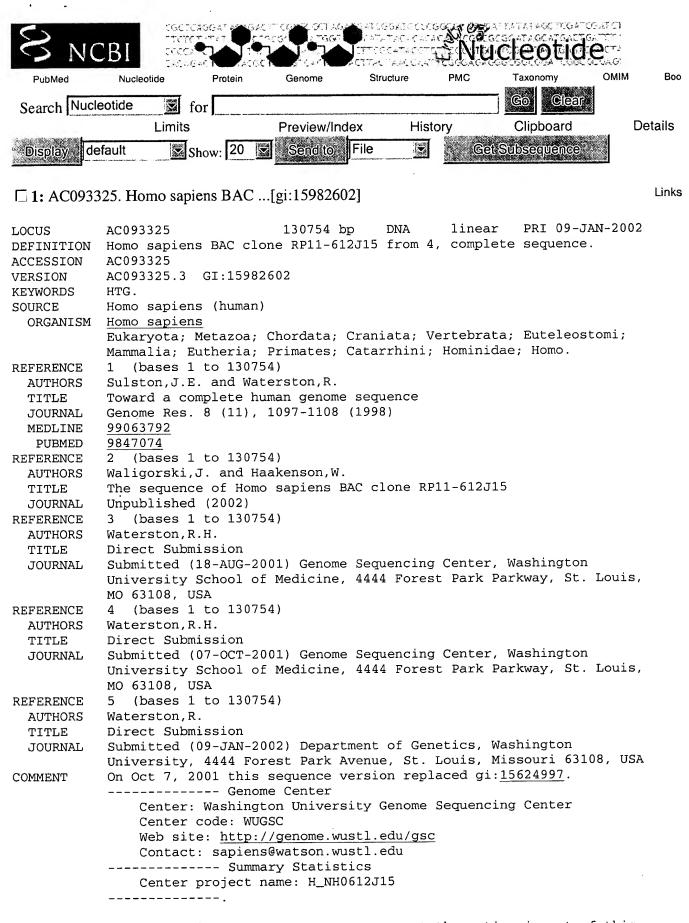
>AC093325.3.1.130754 Length = 130754

Score = 236 bits (119), Expect = 2e-59
Identities = 119/119 (100%)
Strand = Plus / Minus

Query: 61 caggcggaatccaacctgagtagtaaattccagttttccagcaacaaggaacagaacgg 119

Sbjct: 80151 caggcggaatccaacctgagtagtaaattccagttttccagcaacaaggaacagaacgg 80093





NOTICE: This sequence may not represent the entire insert of this